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ABSTRACT

This issue is dedicated to vocational and adult education. "Our Children's Future: Programs for Success" (John Folks) presents the goals for public education in Oklahoma. "Vocational Education in Oklahoma: Responding to Change" (Roy Peters) provides background information on vocational education in Oklahoma and enumerates the strategic directions for the future. "Preferences and Characteristics of Health Occupations Students in Three Postsecondary Educational Settings" (Karen Gable) compares the information and decision-making preferences of 1,188 health occupations students enrolled in different educational settings in Indiana. "An Occupational Analysis of Oklahoma T&I Teachers: Implications for Teacher Education" (Richard Sullivan) presents the results of a study to determine the educational tasks considered most important by trade and industrial education teachers in Oklahoma. "Vocational Education for Disadvantaged Students" (Jerry Wircenski, Lynda West, Michelle Sarkees) addresses dropout prevention for disadvantaged high school students. "Finding the Elusive ESL (English as a Second Language) Student: Mexican Migrant Workers in a Midwest Suburb" (Robert Nolan) describes the problem of locating Mexican migrant workers for the purpose of recruiting them for educational programs. (YLB)

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Special Issue on Vocational and Adult Education

CE 051 100

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The Tower Review is a nonprofit publication of the College of Education, Central State University, Edmond, Oklahoma devoted to the dissemination of information on current issues, research and practice related to education.

Editorial Commentary

The Tower Review is a publication of the College of Education, Central State University in Edmond, Oklahoma. The editorial board is composed of members of the University faculty and represents a broad cross section of the disciplines within the College of Education. Articles appearing in this issue have been reviewed by at least four members of the editorial board.

This issue is dedicated to vocational and adult education. The first article, by Folks, presents the goals for public education in Oklahoma. Peters provides background information on vocational education in Oklahoma and enumerates the strategic directions for the future. In the third article, Gable compares the information and decision-making preferences of 1,188 health occupations students enrolled in different educational settings. The fourth article presents the results of a study by Sullivan to determine the educational tasks considered most important by trade and industrial education teachers in Oklahoma. Wircenski, West, and Sarkees address dropout prevention for disadvantaged high school students in the fifth article. In the last article, Nolan describes the problem of locating Mexican migrant workers for the purpose of recruiting them for educational programs.

The editorial board of **The Tower Review** believe the articles in this issue will be of interest to our colleagues in education. We invite all those interested in submitting manuscripts for consideration to review the guidelines for contributors printed in this issue.

Lou Ebrite, Editor
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Central State University
Edmond, OK 73060-0120

The Tower Review

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Our Children's Future: Programs For Success

John M. Folks
Oklahoma State Department of Education

Oklahoma is meeting an awesome challenge. The success of our future is dependent upon a strong and vital economic base. Yet to meet this goal of economic development and improve the quality of life in our state, it is urgent that we strive for more improvements in our educational system. We must encourage and advance the academic achievements of our children whose livelihood and future success will forge into the next century.

The Oklahoma Academy for State Goals recently gave a number of recommendations on public education in Oklahoma. A Task Force on Education and Economic Development has been put together as a result of H.B. 1444 to develop a set of guidelines to move Oklahoma to the top in education. It is extremely important for every teacher, administrator, and member of the "school family," as well as each student, student's family and citizens of Oklahoma to realize that student's progress and academic success is the ultimate goal.

Many positive changes toward educational excellence have been implemented in Oklahoma recently and have focused on four major areas: quality instruction for students; high standards for teachers and administrators; valuable partnerships with students, parents, teachers, administrators, business/industry, and the total community; and a belief in technological advances in future planning.

The State Department of Education in addressing these four areas of educational improvement has designated three areas of primary focus: students and learning, teachers and teaching, and administrators and leading. The following accomplishments have been attained in each area.

Students and Learning:

* Establishment of an annual curriculum review in each school district.
* Establishment of learner outcomes at all grade levels in Oklahoma.
* Development and implementation of a local discipline policy.
* Limiting the amount of time a student can be absent from instructional classes for extracurricular activities.
* Offering seven periods a day rather than six in many of our schools.
* Implementation of a statewide testing program for all students in Grades 3, 7, and 10 in Oklahoma.
* Implementation of a writing assessment administered to 10th grade students. In the next two years, the writing assessment will be administered to students in Grades 3, 7, and 10.
* Development of the readiness level screening of all kindergarten students to determine whether or not they can function in the first grade and to identify and address deficiencies.
* Reduction in class size in the primary grades.
* Establishment of gifted and talented programs for academically gifted students.
* Concurrent enrollment for students in high schools, colleges and universities.
* Strengthened graduation requirements and college admission standards.
* Implementation of a curriculum improvement plan to address North Central accreditation.

Dr. Folks is the State Superintendent of Public Instruction, Oklahoma State Department of Education, Oklahoma City, Oklahoma.

* Improvement of test scores is being addressed as they relate to the statewide student testing program.
* Required government and geography at seventh or eighth grade level.

Teachers and Teaching:

* Establishment of new accreditation standards for teacher education programs.
* Revised teacher certification standards to ensure more quality for the teachers that become certified.
* Establishment of a teacher testing program whereby new teachers must pass a test in the subject areas in which they are going to teach.
* Establishment of staff development programs in each district.
* Establishment of rural education through small school cooperatives and satellite instruction.

Administrators and Leading:

* Establishment of workshops for all new school superintendents, dependent school administrators, and current administrators in the state.
* Establishment of the program of minimum requirements for effective teaching and effective administrative performance.
* Training for every administrator in the state in the utilization of the minimum criteria for evaluation. This concept is also being used to implement the effective schools research in the schools of Oklahoma.

It is very evident Oklahoma has put into action many improvements and changes in its educational system leading to a higher caliber of educational commitment and production. Of course, additional changes and improvements will continue to be made as Oklahoma endeavors for excellence in our educational system and in fostering economic growth and a better quality of life in our state. The economic growth and survival of Oklahoma necessitates an excellent educational system. To this end, we must strive.

As Superintendent of Public Instruction, I submit the following educational proposals with the sincere spirit of accomplishing this goal for our children, thereby ensuring Oklahoma's future and economic prosperity.

Programs For Progress

I. Curriculum, Graduation and Assessment.

In the area of Curriculum, Graduation and Assessment, Oklahoma will require a minimum of 22 units of coursework for graduation including: 4 units of English; 2 units of mathematics; 2 units of science; 1 unit of world history; 1 unit of American history/Oklahoma history; 1 unit of fine arts; 1 unit of physical education. Students may eliminate at least one of the required units above for every three units of credit earned at an area vocational technical school or comprehensive high school. The decision of which units to be waived will be made by the local school district by individual case. Beginning with a student's junior year, any student not enrolled in college preparatory curriculum will be required to be enrolled in vocational courses.

Formal reading instruction in both the seventh and eighth grades will be required.

The Oklahoma School Testing Program (OSTP) will continue and include grades 3, 5, 7, 9, and 11; and a criterion-referenced test will be developed as a component in determining a high school diploma (all students will be required to take the competency examination).

Schools shall offer three types of diplomas to graduating students based on certain program requirements and scores on the competency test:an Academic Letters Diploma; a General Education Competency Diploma; and a High School Diploma.

II. Vocational Education.

Oklahoma Schools shall implement the "Strategic Plan for Vocational and Technical Education" as adopted by the State Board of Vocational and Technical Education. Schools will encourage all students to take at least one vocational course. Also, all schools in grades 7, 8, or 9 will implement the Technology Education Program established by the Oklahoma State Board of Vocational Technical Education.

III. Time on Task.

All school districts shall be required to hold a seven period day with no period less than 45 minutes. Regional summer schools will be established to address remediation on the statewide testing program and also to provide enrichment and upper level courses for interested students. The school year will be expanded from 180 to 190 days, requiring 180 days for instructional time and providing 10 days for staff development and inservice use.

IV. Public School Choice.

Students will be allowed to attend the school district of their choice with the approval of the receiving district only. However, districts currently or previously under desegregation orders, or districts where transfer would be detrimental to providing an ethically integrated environment, will make the transfer decisions whether or not they are sending or receiving districts.

Alternative education programs will be made available to those students who can not succeed in the regular school environment.

V. Comparability.

Oklahoma shall participate in national assessments so the performance of our students can be compared to those nationwide. Concurrently, a statewide "educational indicators project" shall be developed whereby comparisons can be made within our state regarding the performance of school districts. Schools whose students' average score for three consecutive years is in the upper 20th percentile on the OSTP will be deregulated by the State Department of Education. Schools whose students' average is in the lower 25th percentile on the OSTP will develop immediate programs of action and any school scoring three consecutive years in the lower quartile will be declared academically at-risk. Local school districts may designate individual school sites as deregulated schools or academically at-risk schools, based on available data.

VI. College Entrance.

An entrance score on the American College Test (ACT) shall be established by the State Regents for Higher Education. Probationary status will be given to any student not receiving an appropriate entrance score until said student has completed certain requirements or proven to be a successful college student. The college entrance requirements presently in place shall be continued with a strong emphasis placed on acquiring a foreign language. Any student taking a college entrance examination, whether it is the ACT or the Scholastic Aptitude Test (SAT) shall be required to be enrolled in a college preparatory curriculum in the years prior to taking the exam. Students not enrolled in the college preparatory curriculum and wishing to take the ACT or SAT will be required to take a preparation course.

VII. At-Risk Students.

The Council of Chief State Officers recently adopted a position paper entitled "Ensuring School Success for Students At-Risk". Due to the new initiatives to increase expectations and standards for students and schools, states must now take the necessary steps to assure these new expectations are met by all students. Oklahoma's citizens, legislature and schools must adopt a statute addressing the guarantees set forth by the Council of the Chief State School Officers for all students who are at risk of not graduating. We must assure at-risk

students be in an educational program of the quality available to students who attend schools with high rates of secondary school graduates, supplemented by education service integrated with the regular program necessary for the student to progress toward graduation. We must also provide educational information about students, schools, school districts, and the state to enable identification of students at-risk and to report on school conditions and performance. Information must be sufficient to provide a basis for local and state policies to improve student and school performance and to show whether certain guarantees for these students are being met by the school.

Oklahoma is definitely on the course to educational excellence. Much advancement has been made with more to follow.

These proposals are presented with the distinct aim and goal of raising the academic performance level of students in Oklahoma. This program is one of educational excellence for all students. A close look at the proposals, even if some appear to be controversial, will provide an understanding of the importance of their impact to improve our educational system. Of course, programs, laws, and regulations can be set forth, but without proper state and local funding, and a full commitment to build a system that will be an example to all, we will not achieve the needed improvement towards excellence.

I invite all citizens of Oklahoma to study and analyze these concerns in conjunction with the many other proposals which have been implemented to upgrade education in our state. I sincerely believe we are on the brink of being a state of educational excellence or being a state that is educationally bankrupt.

Vocational Education In Oklahoma: Responding To Change

Roy Peters
Oklahoma Department of Vocational Technical Education

Passage of the Smith-Hughes Act in 1917 marked the official beginning of vocational education throughout the United States. Since then vocational education in Oklahoma has become an integral part of Oklahoma's education system, while repeatedly receiving recognition as one of the state's most effective economic development tools. Robert M. Ady, Executive Vice President of The Fantus Company in Chicago, an expert in developing plant location studies, stated:

> Oklahoma's best bet to land new plants and businesses is to continue its support of a strong vocational technical training program and to be willing to fund education. One of the few areas where you concentrated your dollars has been in maintaining and in fact improvement in the high level of vocational training that's the key to the future of Oklahoma (McNutt, 1987, p. 7).

Paramount to the reputation of the vocational education system in Oklahoma is the dramatic transition which began in the early 1960s and has continued through today. Of extreme importance was the Vocational Education Act of 1963, which led to the establishment of area vocational-technical schools. "The idea behind the area school concept was simple... it would be easier—and more economical—to establish magnet schools or area schools which would be equipped to serve large numbers of students" (Tyson, 1976, p. 47).

Having a dual delivery system, through the area vo-tech schools and the vocational programs in the comprehensive schools, allowed Oklahoma to offer specialized technical training for both youth and adults.

These changes "were welcomed by the leaders of vocational education in Oklahoma" and in 1965, the first vo-tech center opened in Tulsa. The following year, 1966, vo-tech centers were opened in Oklahoma City, Ardmore, and Duncan. "By 1967 more than 2,000 day students and evening adult students were receiving training in vo-tech centers" (Tyson, 1976, p. 47). The total number of students served by Oklahoma Vo-Tech increased dramaticaly as more area vo-tech schools were opened.

In 1969, vocational education served 54,121 secondary and adult students. In 1987, the 292,118 persons enrolled in vocational education represented a 500 percent increase in the size of the vocational-education student body over an 18-year period. This increase was primarily due to more adults who began participating in a variety of programs at the area vo-tech schools. The number of adults enrolled in short-term programs increased substantially during the last ten years. In 1987, short-term adult program enrollments numbered 162,472—an increase of nearly 138,000 students from 1976.

Most recently, more adults have been enrolling in the full-time area vo-tech school programs to learn marketable skills in a short amount of time at a very low cost. Large numbers of displaced workers depend on these programs to acquire new skills for entry into a more viable occupation. Most of these adult students study under the open-entry, open-exit con-

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Dr. Peters is the Director, State Department of Vocational Technical Education, Stillwater, Oklahoma.

cept. They can enroll at any time during the year, work and learn at their own pace, and then leave when they have obtained the skills necessary to find employment (Oklahoma State Department of Vocational and Technical Education [SDVTE], 1987a).

Today, programs are available at 480 comprehensive school sites and at 42 area vo-tech school campuses. Nealy all of Oklahoma's citizens have access to an area vo-tech school, and citizens in all 77 counties have access to some type of vocational education.

In addition to the short-term and full-time adult programs, many new programs and services have been added since the 1960s to assist business and industry. "Oklahoma Vo-Tech training services to business and industry include teaching needed vocational skills to production employees and teaching managerial skills to first-line supervisors and upper management... Last year alone, about 26,000 workers were trained for 310 new, expanding, or existing companies" (SDVTE, 1987a, p. 11).

Another highlight of the past year was the formation of a statewide network of bid assistance centers. The purpose of the bid assistance centers is to better equip Oklahoma firms to land government contracts. Twenty-two bid assistance centers are now in operation and their client list includes more than 1,600 firms. Although the bid assistance centers are only a few months old, they have already brought Oklahoma companies more than $87,000,000 in contracts. These contracts have helped retain existing jobs and created new job opportunities for Oklahoma citizens.

Tom Peters (1987) describes the future as a "chaotic, endlessly changing world, much different than the world of the past" and predicts that flexibility and quality will be the two most identifiable features of productive organizations. Flexibility and quality are not new to the vocational education system in Oklahoma. As technology was integrated into the workplace, new jobs were created, new vocational education programs were implemented to provide the training, and outdated programs were phased out. Vocational education will need to continue upgrading the quality of its programs and adapting to changes, but changes in technology and the workplace will occur more quickly and vocational education will need to respond accordingly. Some of those predictable and programmatic changes are already being planned.

Trends Affecting Vocational Education In Oklahoma

Changing trends in demographics, the labor force, the economy, technology, and the state of the world will have a significant impact on vocational education in Oklahoma. These trends are causing vocational educators in Oklahoma to look, once again, not only at what is being taught in the programs but also at who will need vocational programs, services, and activities in the future. The urgency for strategic planning has been recognized and the opportunity has been taken to assess "Current performance, as well as understand the key trends and issues that are likely to affect Oklahoma" (ADVTE, 1987b, p. 2).

The population that vocational education will serve in the future will be much different. Population changes within the nation and the state of Oklahoma suggest that secondary students will comprise a decreasing percentage of the vocational enrollment (SDVTE, 1987b). Adults will be the primary clients in the growth of vocational education. The vocational student body of the future will also consist of unique subpopulations—senior citizens, ethnic populations, handicapped and disadvantaged individuals, single parents, and female heads-of-household. Each will require more specialized recruitment and services than vocational education has offered in the past. When demographic trends are collectively considered, the need for more vocational education becomes increasingly evident.

Trends in the labor force are a second basis of serious implications for vocational education. External social forces have changed and will continue to change the nature and composition of the labor force. Workers and managers will become separated by increasingly diverse values, expectations, behaviors, and lifestyles. Greater workplace diversity will create a need for more employment-related training for both managers and employers. The labor force will continue to mature and become smaller. More workers will be either overeducated

or unprepared for the jobs of the future. Employers will continue to use more temporary workers and place a greater emphasis on entrepreneurship (SDVTE, 1987b).

Technological trends will affect all businesses and industries. Those which will experience the greatest impact are agriculture, construction, manufacturing, and communication. The biggest job growth will be in service industries and the majority of jobs will be available in small businesses. Marvin Cetron (1985) predicts that in the next 20 years, 85 percent of all new jobs will be with small businesses and industries with less than 200 employees and more individuals will be involved in entrepreneurial activities. The number of high-technology jobs will continue to increase and there will be fewer jobs for semi-skilled, manual laborers. Jobs of the future will require technically skilled individuals who have the ability to adapt to changes in technology and the workplace (SDVTE, 1987b).

Finally, the state of the world will continue to impact Oklahoma and vocational education. To remain competitive in a global marketplace, Oklahoma industries will continue to increase their international networks; implement computer-integrated manufacturing, computerized management information systems, and bio-electronics technology; and to use less manual laborers and more technically skilled workers.

Strategic Directions for Vocational Education in Oklahoma

Strategic directions for vocational education in Oklahoma include numerous goals and strategies to serve individuals in business and industry. Current priorities include cooperative agreements and basic skills reinforcement and development.

In a recent strategic planning forum, Cetron stated, "Oklahoma has an excellent junior college system and the nation's best vocational education system, but Oklahoma does not have a technical education system" (Nelson, 1987, p.1). Cetron encouraged the state to combine or work out a cooperative agreement between the two-year educational systems—area vo-tech schools and junior colleges—to provide job training for most of the state's young people, since 75 percent of Oklahoma's high school graduates do not graduate from college (Nelson, 1987). Cooperative agreements would provide adult students the opportunity to complete an associate in applied science degree in a technical area.

Today, cooperative agreements are being pursued by several area vo-tech schools and colleges. In the future, cooperative agreements will provide the mechanism for refocusing the vocational education curricula by providing postsecondary students additional opportunities to apply and develop basic academic skills as they acquire technical skills.

Through cooperative agreements, adult area vo-tech school students would enroll simultaneously in academic courses at the junior college. When the student completes both the required technical skills training at the area vo-tech school and the academic courses at the junior college, the college would award an associate of applied science degree. Efficient resources management would be achieved through utilization of the existing technical laboratories at the area vo-tech schools and the academic classrooms at the colleges. Also, colleges would not need to duplicate the expensive, technical labs that are already available at the area vo-tech schools. Ultimately, the taxpayers of Oklahoma would not be forced to pay for additional, unnecessary technical labs.

Basic skills reinforcement and development—a second future direction of vocational education in Oklahoma—is essential to the preparation of students for the workplace of the future. Additional technical skills requirements are creating a huge gap between workplace demands and applicants' basic skills. If education fails to respond, the vitality of the U.S. economy will be jeopardized. The severity of the problem is so acute that David Kerns, Chairman and Chief Executive Officer of Xerox Corporation, described the inadequacy of basic skills as "a survival issue for America" (Work in America Institute, Inc., 1987).

Unfortunately, debate continues regarding education for jobs, a general education, or a specialized education.

The issue is not whether secondary students should be prepared for jobs, nor is the issue

> whether secondary students should receive a general education or a specialized education. The truth of the matter is that all students need both kinds of preparation. The purpose of schooling is to help students achieve intellectual, social, vocational, and personal goals. All students, whether college bound or not, need a mix of both academic and vocational courses and enough elective options to match their interests and learning styles (National Commission on Secondary Vocational Education, 1985, p. 3).

To prepare secondary students for the workplace of the future, vocational education will continue to implement new methods for reinforcing the development of basic academic skills. Providing students an alternative for acquiring basic skills--learning by doing—has the potential for increasing many students' ability to acquire basic skills. This is especially true for those students who grasp material more readily through application than through abstract thinking (Southern Regional Education Board's Commission for Educational Quality, 1985).

To improve the quality of basic skills instruction for both secondary and postsecondary students in Oklahoma, several strategic outcomes have been established:

Investigation of basic skills integration through an applied research study in vocational education programs

Development of occupationally specific, industry-validated tests to evaluate students' ability to met the minimum standards of performance in both the technical and basic skills areas

Delivery of vocational curriculum materials that reinforce basic skills in relation to occupational competency development

Integration of basic skills instruction into both preservice and inservice vocational teacher education programs

Summary

Thanks to the foresight and dedication of many professional educators of the past, Oklahoma has one of the nation's most viable vocational education systems. We are proud of that system and those programs and services that contribute to the economic vitality of Oklahoma. Historically, our success can be attributed to doing things right—constantly evaluating existing programs and implementing program improvements.

Now, there is a greater urgency than ever before to make sure we are doing the right things. As we prepare to enter the 21st century, we will continue our examination of what we are doing and how we are operating, reflecting upon both ourselves and the world around us. In doing so, our goal shall always be to insure that our priorities are consistent with the needs of individuals, business, and industry throughout Oklahoma.

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Preferences and Characteristics of Health Occupations Students in Three Post-secondary Educational Settings

Karen E. Gable
Indiana University

Applying knowledge of student learning styles has been one response to pressures for educational accountability. The purpose of this study was to compare the information and decision-making preferences of health occupations students enrolled in different educational settings. The findings indicated significant differentiation of preferences existed between educational sites. Four recommendations are made regarding the application of the findings in areas such as instructional design, teacher-student interaction in the learning process, and career counseling.

Rationale

According to the Bureau of Labor Statistics, "...employment in most of the health occupations is expected to grow faster than the average population growth--especially the growth in the number of older people--increases the demand for health care" (ASAHP, 1984, p. 3). Continuing demands will be placed on programs to produce competent practitioners for the 240,800 annual job openings anticipated (Health Occupations Education Division, 1983).

However, the constraint of available financial resources, and the recognition that the costs of the educational programs to prepare health practitioners are substantially above those of other types of programs, will require that educators and administrators be as cost-effective and educationally efficient as possible (Blagg, 1985; Miller, Beckham and Pathak, 1983).

Increasing pressures, both internal and external, are forcing administrators and educators to evaluate their programs critically in order to be accountable, i.e. effective and efficient, for the resources they have (Ginzberg, 1985; Vittetoe and Hooker, 1983; Walt, 1985). The need for accountability is especially true within the Health Occupations/Allied Health area which has been engaged in the extensive effort to meet current and future manpower needs of the health care delivery system (Milliken, 1982; Wesbury, 1983). Miller, Beckham and Pathak (1983) expressed this concern as follows:

> The number of dollars allocated, programs initiated, and students enrolled for allied health professions education within the university setting has steadily increased over the past 30 years. Because of the perceived need for allied health professions, society in the past has been willing to provide support, without question, for their training. The health education scene in the last few years, however, has been influenced by spiraling inflation and its corollaries, including a push toward cost containment and progressive reduction in funding. Simultaneously, the public's realization of the lack of quality control and accountability in the health care fields has led to the need for internal and external examination and review of health education institutions' missions, goals, role and performance (pg. 12).

Dr. Gable, RDH, is an Assistant Professor and Coordinator of Health Occupations Education at the School of Education, Indiana University at Indianapolis.

Efforts to address the need for accountability have led to a number of approaches. One such approach has been the application of knowledge concerning student learning preferences and/or styles. While the awareness of student differences in learning is not new to the educational arena, the increased interest in applying the concept is new (Claxton et al, 1982; Knaak, 1983; Milliken, 1982).

These capabilities are available for determining health occupations education (HOE) student preferences and/or styles. Application of that knowledge for curricular design, instructional processes, and counseling and advisement is possible. However, relatively little research has been done to identify preferences of students enrolled in various educational programs for the health occupations (Vittetoe and Hooker, 1983). The research of Myers (1962) and McCaulley (1978) focused upon health practitoners and revealed that significant differences exist between the specialist and the generalist within the medical field and some of the associated areas of Allied Health. Few studies have focused on students and their preferences among the various HOE/allied health programs (Payton et al., 1980; Ragle and Ross, 1982; Rezler and French, 1975). The author could find no references indicating student preference differences among the various educational settings.

Purpose and Objectives of This Study

The purpose of this study was to identify the factors associated with information and decision-making preferences of students enrolled in different HOE programs in various educational settings. This information, generally believed useful and important, was unknown.

There were two objectives for the portion of the study addressed herein. These were to:

1. Determine the differences in preferences between students who enroll in health occupation programs within the various educational settings of the hospitals, junior or community colleges, vocational/technical institutions, and four year colleges or universities, and
2. Investigate the relative importance of each biographical item, preference scores, and the enrollment in a health occupational major upon the selection of an educational setting.

Definitions used for the Study

For research purposes the following definitions are listed:

1. Student was defined as an individual enrolled in the first year of professional studies leading to one of the health occupational titles. Students enrolled in pre-professional coursework and students enrolled in coursework beyond the first year of the professional curriculum were not included.
2. Preferences reflect the constructs of Carl Jung's theoretical framework which defines four basic mental processes (Sensing, Intuition, Thinking, and Feeling) and the attitudes of Extraversion/Introversion and Judgment/Perception (Jung, 1923).
3. Health occupations education programs are defined generically, according to Milliken (1982, p. 1) as "...all educational programs which prepare personnel for practice within the health industry," and "health-related professions which do not fall within the domains of medicine, nursing, or dentistry..." Similarly, the American Society of Allied Health Professionals (1984) has recently re-defined "allied health personnel" more adequately to reflect the growing field of allied health/health occupations. Currently, "...The term 'allied health professional' means an individual trained at the associate, baccalaureate, masters, or doctoral degree level in a health care related science, with responsibility for the delivery of health care or health care related services (including services related to the identification, evaluation, and prevention of diseases and disorders, dietary and nutrition services, health promotion, rehabilitation, and health systems management), but who are not graduates of schools of medicine, optometry, podiatry, or nursing. Health occupations referred to the follow-

ing fifteen selected health occupations as having met the criteria of the definitions attributed to Milliken and ASAHP: (a) Dental Assisting, (b) Dental Hygiene, (c) Medical Assisting, (d) Medical Laboratory Technician, (e) Medical Records, (f) Medical Technology, (g) Occpational Therapy, (h) Physical Therapy Assisting, (i) Physical Therapy, (j) Radiography, (k) Radiography Technician, (l) Radiological Technician, (m) Respiratory Therapy, (n) Respiratory Therapy Technician, and (o) Surgical Technician.

4. The educational setting was defined as one of the three major institutional settings within which the majority of health occupations education programs are located. As is characteristic of the national profile where 95.8% of all programs are located in three types of major institutions, the selected educational programs were located within (a) hospitals, (b) junior colleges, community colleges, and vocational-technical institutions, and (c) senior colleges, universities and medical or dental schools (DAHEA, 1985).

Conceptual/Theoretical Framework of the Research

Peter Drucker (1981), an observer of educational practices in American higher education, has predicted that basic changes in teaching will occur in the near future. He predicted these changes will come about not so much as a result of the responsiveness of the institutions, which are notoriously resistant to change, but as the result of increasing pressures exerted by the persons being served. Claxton, Adams, and Williams (1982) assert that as the general public realizes research documents the efficacy of mastery learning and individual learning styles, increasing pressures will be exerted on institutions to incorporate both concepts.

Concepts of learning styles and teaching styles have been a focus of research and writing in recent years (Dunn, K. and Dunn, R., 1978; Kolb, 1984; Lawrence, 1984; Myers, 1980). However, Patricia Cross in *Accent on Learning* (1976, p. 112) laments, "not one teacher or counselor in a hundred knows anything at all about cognitive styles despite the fact that research on cognitive styles has been going on for some twenty-five years."

Both of the terms "cognitive style" and "learning style" refer to how people desire or prefer to move towards a goal or destination, i.e., the preference a person uses to gain information or skills, and/or decide or judge. The term "learning style" though similar to "cognitive style" in most regards has a more specific context. For example, as defined by Claxton and Ralston (1978, p. 1), "learning style" is "the student's consistent way of responding and using stimuli in the context of learning." It has been defined as "a personally preferred way of dealing with information and experience for learning that crosses content areas" (Della-Dora and Blanchard, 1979, p. 22).

An early contributor to the concepts of cognitive style and learning style was Carl Jung. Although he did not conduct research specifically focused on cognitive style nor is he cited in literature pertaining to it, his work did provide a prototype or model of style division. He identified the functions of perception (sensing and intuition), and judgment (thinking and feeling), and of attitude preferences (extraversion and introversion). This scheme has been incorporated into some of the more recent works of Gregoric (1977), Kolb (1984), McCarthy (1981), and Myers (1980).

Researchers and counselors, addressing occupational choices or career studies, have found that all types of people are not equally interested in all occupations (Smith, G., 1980; Troops, 1972). Various Jungian types were drawn to particular fields of study as well.

According to researchers, certain predictions can be made regarding student enrollment in educational programs and specifically within health occupations programs (McCaulley, 1978; Ragle and Ross, 1983; Rovezzi-Carroll, 1982; Vittetoe and Hooker, 1983). Boyles, Morgan and McCaulley (1981) have reported that Introverts tend to be found in greater numbers as educational levels increase. However, little research has focused upon the differences of students' preferences between educational settings.

Inferences have been reported concerning effects of preferences in work situations (Myers, 1980) and educational situations such as the predictable differences in learning styles and student responses to teaching methods (Myers, 1980). However, Weidman (1984) and Astin (1980) have suggested that there are multiple reasons for student selection of a educational institution or setting.

The preceding review of the theorectical bases for this study provides the background against which hypotheses and research questions were posed (Gable, 1986). Two hypotheses and one question, reflecting the two objectives for this portion of the study, are as follows:

1. Students who have preferences for Introversion will be found in the four year college and university settings of the health occupation education programs.
2. Students who prefer Sensing will likely be found in hospitals, junior colleges, community colleges or vocation/technical educational settings for their health occupational programs.
3. What is the relationship between the preference scores, biographical items, enrollment in occupational major and the selection of an educational setting?

Research Methodology

A stratified cluster sample technique (Borg and Gall, 1984; Hinkle et al., 1979) was used. The sample, as shown in Table 1, consisted of 1187 (82%) students enrolled in 88 (92%) post-secondary educational programs for the fifteen selected health occupations and the three types of educational settings in the state of Indiana. All students who were actively enrolled in the first year of their HOE program were invited to participate in the study if their program director had expressed cooperation.

Program directors and/or administrators were contacted by letters and follow-up phone calls reiterated the purpose of the study and the request for cooperation in the study. All but eight of the 96 program directors contacted expressed willingness to allow participation of their students.

The data collection technique was a written questionnaire. The instrument was a modification of the 126 item Myers-Briggs Type Indicator (MBTI), Form G. The substitution of sixteen forced-choice items regarding HOE programs, educational settings, and biographical information, for some of the Form G biographical information did not impinge upon the general format of the instrument.

Table 1
Distribution of Health Occupations Education Programs and Students in Institutional Settings.

Setting	Programs	Students
Hospital	27 (31%)	188 (16%)
Jr/Comm Coll/Voc-Tech	26 (29%)	450 (38%)
Four Year College/Univ	35 (40%)	549 (46%)
Totals	88 (100%)	1187 (100%)

A total of 1188 responses were returned of which 1187 or 99.9 per cent were usable. Each response sheet was scored twice and each score was tabulated twice independently, in an effort to assure accuracy. Procedural verification of the transfer of data to computer-ready format was also done. Each step of scoring, tabulation, and computer input processing was double-checked. Data were keypunched onto computer cards and the data file was created using the Statistical Package for the Social Sciences (SPSS) Release 9 and the CDC Cyber 170/855 computer facilities at Indiana University. Data were analyzed using zero-order correlations, ANOVAs, t-tests, multiple regression and discriminant analysis.

Twenty variables were used on biographical information—race, education of parents, highest grade completed, high school GPA, and reasons for selecting the educational site—, occupational group, educational setting, and preference type and continuous scores as defined by McCaulley (1980). Measures were based on the self-reported responses of the participants.

Research Findings and Recommendations

The findings of this segment of the study can be divided into two groups. The first relates to the differences in preferences of students' enrolled at various educational settings. The second group relates to the relationship of the preferences and biographical information with the educational settings.

The first group of findings revealed that the institutional setting was significant at the $p < .001$ level for the students' scores on the Sensing/Intuition scale as seen in Table 2. Students preferring Sensing were found to be enrolled in hospital, vocational-technical institutions, junior, and community colleges.

Table 2
Group Means of the Sensing/Intuition Continuous Scores by Educational Setting

Setting	Number of cases	Mean
Hospital	188	95.37
Jr./Comm. College/Voc-Technical	450	87.75
Four Year College/University	549	88.88

Note.
Degrees of freedom = 2
$F = 7.08$; Significance of $F = .0009$

The calculation of the variance in the group means of students enrolled in the three educational settings indicates that the students in the junior/community college or vocational-technical institutional settings tend to prefer Sensing more than students in either the four year college/university setting or the hospitals. The students located with the hospital sites tend to have a weaker preference for Sensing and have a group mean which is relatively close to the midpoint of 100 on the Sensing/Intuition continuous score scale.

However, scores on the Extraversion/Introversion scale were not found to be significantly different by educational setting. Students preferring Introversion were not found to be located in four year college/university settings significantly more than the other settings as prior research indicated. This finding may be related to the fact that students with preferences for Extraversion have been found to be attracted to health occupations majors and hence the educational settings may not vary significantly for the Extraversion/Introversion preferences for this group of students.

The second group of findings focused on the relationships of the biographical, preference, and educational settings data. The relative importance of each biographical item and preference scores upon choice of educational setting was studied by using mulitple regression analysis. The results are presented in Table 3.

Table 3
Choice of Site Explained by the Determinants

Variables	Zero-Order Correlation	Standardized Regression Coefficient
Gender	-.107	-.053*
Age	-.058	-.011
Race	-.000	-.018
Education of Mother	.100	.064*
Education of Father	.070	-.021
Highest Grade Completed	.096	.090**
High School GPA	-.046	.007
Dental	.360	.475***
Med. Lab.	-.253	-.217
Phys. Therapy	.192	.286***
Radiological	-.181	.056
Respiratory	.047	.212***
Med. Asst.	-.179	.036
Med. Records	.067	.157***
Occup. Therapy	.183	.247***
Surg. Technology	-.071	.017
Proximity to Home	-.013	.009
Influence of Family	-.018	-.058
Avail. of HO Program	.170	.105***
Opportunity to Work	-.105	-.040
Cost	-.083	-.059*
Avail. of Fin. Aid	.028	.083**
EI Continuous score	-.026	.002
SN Continuous score	-.069	-.058*
TF Continuous score	.078	-.014
JP Continuous score	-.028	.024

Note. Number of cases = 1187; Degrees of freedom = 25,1161
F = 22.44556***
*p < .05
**p < .01
***p < .001

The findings indicate that three biographical items--gender, education of the mother, and the highest grade completed-, four reasons for selection of a setting--influence of family, cost, opportunity to work while a student, and availability of financial aid-, preference scores, and the presence of the desired major were identified as having significant relationships.

In essence, females were more likely to be found in hospital and two year settings. The education of the mother was directly related to the educational level of the enrollment setting, i.e. as the educational background of the mother increased, the enrollment setting choice of the student was likely to reflect a longer time frame. Likewise, as the grade level completed by the student, the setting level was elevated. As students enrolled in the higher levels of educational settings, they reported less influence of the family upon their choice of setting and less concern about cost; some influence for availability of financial aid was reported and a strong influence of the avalability of the desired major were given as reasons for the setting selection. Specific occupational majors directly influenced the selection of

educational setting, i.e. dental auxiliary education, physical therapy, respiratory therapy, medical records, and occupational therapy.

The use of preference scores significanlty improved the predictability of group membership in the setting categories from the 33.3% expected per equal distribution to 57.79% as shown in Table 4. This increase of 24.5% demonstrated the ability to foresee the choice of site if the Extraversion/Introversion, Sensing/INtuition, Thinking/Feeling, and Judging/Perception preference scores are known. The S/N scores were significant in differentiating between sites.

Table 4
Classification Results of Stepwise Analysis of Site by Biographical Items and Preference Scores

Setting	Number of Cases	Predicted Membership (%)
Hospital	188	94 (50.0%)
Jr/Comm College/Vo-Tech	450	312 (69.3%)
Four Year Coll/University	549	280 (51.0%)

Note. Equal priors=33.33%
Overall predicted group membership=57.79%

Based upon the findings of this study and the practical importance to administrators and faculty of health occupations education, as well as other occupational programs, in post-secondary institutions, the following recommendations are made:

1. Program directors and administrators should recognize the differentiation by educational setting of student preferences for Sensing/Intuition. The hospital, junior college, community college, vocational-technical institutional settings appear to attract students who prefer the details, consistency in procedures, and skills in the psychomotor realm. Consequently, instructional methods and counseling processes should reflect the recognition of these preferences.
2. While the health occupational groups may be differentiated on the preference scales, individual students in a given program are different in fundamental ways as well. Some individual allowance for variation in instructional methods and strategies could facilitate the learning of more students. Attempts to teach all students by using single instructional modes are inappropriate and do not promote the learning process. Administrators could increase the effectiveness of the educational programs by urging faculty members to consider individual student preferences when implementing instructional plans to facilitate student learning.
3. Because students differ, administrators should encourage self-awareness of preferences of faculty members. Awareness and recognition of their own preferences could enable faculty members to better understand their participation in the interactive process of learning.

These recommendations are made in the effort to identify potential ways to increase the effectiveness and efficiency of health occupations or allied health educational programs. Application of the suggestions, in other occupational programs as well, could enable administrators and faculty members to respond to concerns for quality and cost-effectiveness of their educational programs. It should be recognized that these recommendations may not be applicable to all health occupations programs or sponsoring educational institutions in general. The sample used in this study was restricted to the fifteen selected health occupations having the largest student enrollments, the three settings representing the largest percentage of health occupations education programs, and to the geographical boundaries of one state. The sample did not represent the numerous health occupational categories with lower enrollments, the settings of proprietary schools, consortia, secondary schools or governmental institutions including the military or corrections, nor the nation generally.

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An Occupational Analysis of Oklahoma T & I Teachers: Implications For Teacher Education

Richard Sullivan
Central State University

Trade and Industrial (T&I) Education teachers around the country are facing many challenges in the 1980s. Oklahoma T&I teachers are dealing with budget cuts, declining secondary enrollments, and a system that often finds first year, second year, and adult students in the same laboratory at the same time. Given this blend of students, many of Oklahoma's area vocational schools are moving to a performance-based, open-entry/open-exit system of instruction.

Central State University in Edmond, Oklahoma added Trade and Industrial Education to the Vocational-Technical Teacher Education Department in 1982. Since many of the T&I teachers completing certification and degree requirements within the department teach in a performance-based system, the faculty was given the challenge of developing a performance-based teacher education (PBTE) program to meet the needs of these teachers.

Harris (1983) discusses the essential elements of the PBTE system. These elements include identification of the competencies to be attained, selection of assessment criteria, and development of an instructional delivery system. Norton, Harrington, and Gill (1976) report that an essential characteristic of a performance-based system is identification of competencies derived from an occupational analysis. Chalupsky, Jones, and Danoff (1981) describe one distinguishing feature of a performance-based (or competency-based) system as an occupational analysis conducted to determine task importance. Faradig (1980) describes the first step in the development of a PBTE program as the identification of competencies to be included in the program.

Purpose of the Study

This occupational analysis was conducted to determine those tasks deemed most important by Trade and Industrial Education teachers in Oklahoma. The specific objectives of the study were:

1. Determine the educational tasks deemed most important by T&I teachers.
2. Determine the extent to which teachers differed when categorized on the basis of subject area.
3. Determine the extent to which teachers differed when categorized on the basis of teaching experience.
4. Determine the extent to which teachers differed when categorized on the basis of educational background.
5. Determine the extent to which teachers differed when categorized on the basis of the percent of secondary and postsecondary students enrolled in their program.

Dr. Sullivan is an Associate Professor, College of Education, Central State University, Edmond, Oklahoma.

Method

Design

The design selected to conduct this occupational analysis, and investigate the relationships between task importance and specific sociological variables, was the survey method described by Kerlinger (1973).

Instrumentation

The Occupational Analysis Survey consisted of 85 items. These statements were derived from the PBTE modules developed by the National Center for Research in Vocational Education. These modules address 384 performance statements identified by Cotrell, Chase and Molnar (1972).

Given that participants were teaching in area vocational-technical schools, a decision was made to include only those module titles directly related to the development and improvement of instruction. At the time of this study there were 106 PBTE modules in eleven categories. The final analysis instrument contained 85 items in nine categories. For each item the teacher was asked to indicate the importance of the task in terms of their teaching. The Likert scale ranged from 1 to 5 with 1 indicating low importance and 5 indicating high importance. The category titles and module numbers are listed in Table 1.

Table 1
PBTE Categories and Reliability Coefficients

Category	Module No.	Item No.	Alpha
A: Program Planning, Development and Evaluation	A4-A11	1-8	.79
B: Instructional Planning	B1-B6	9-14	.81
C: Instructional Execution	C1-C29	15-43	.89
D: Instructional Evaluation	D1-D6	44-49	.88
E: Instructional Management	E1-E9	50-58	.86
F: Guidance	F1-F5	59-63	.82
G: School-Community Relations	G1-G10	64-73	.90
H: Vocational Student Organization	H1-H6	74-79	.93
K: Competency-Based Vocational Education	K1-K6	80-85	.96

The original work of Cotrell, Chase and Molnar (1972) established the validity of these items. The reliability coefficients (Cronbach's Alpha) for the nine scales ranged from .79 to .96 and are listed in Table 1.

Based on the previous work in the development of the PBTE modules, and coupled with the reliability coefficients measured in this study, the Occupational Analysis Survey was determined to be reliable for the population to be examined.

Sample

The population of interest in this study included all T&I teachers in area vocational-technical schools in central and southwest Oklahoma. The sample consisted of 169 teachers which was approximately 80% of population to be served by Central State University. This sample represented approximately 28% of the T&I teachers in Oklahoma.

Table 2 describes this sample in terms of the teacher's subject area, years of teaching, education, and percentage of secondary and postsecondary students in the program.

Table 2
Sample Description

Demographics	Frequency	% of Sample
Area of Teaching		
Mechanics	38	22.5
Construction	33	19.5
Electricity/Electronics	25	14.8
Metal Trades	27	16.0
Machine Trades	11	6.5
Printing/Drafting	19	11.2
Others	16	9.5
	169	100.0
Years of Teaching		
First	31	18.3
Second	21	12.4
Third	16	9.5
Four to Ten	55	32.5
Over Ten	46	27.2
	169	100.0
Education		
Less than Bachelor's	96	56.8
Bachelor's	17	10.1
Bachelor's Plus	32	18.9
Master's	24	14.2
	169	100.0
Students		
Secondary	37	22.0
Mostly Secondary/Some Adult	114	67.9
Mostly Adult/Some Secondary	8	4.8
Adult	9	5.4
	169	100.0

Procedure

The Occupational Analysis Survey was administered by the researcher to 169 T&I teachers in the local schools. This insured that all respondents received the same instructions and that all questions regarding the items were answered. There was no attempt to survey those few teachers not in attendance during the administration of the instrument.

Treatment of the Data

The major purpose of this study was to identify those instructional tasks deemed most important by T&I teachers. A ranking of tasks by item mean would indicate the relative importance of each item. Assuming there were no differences based on the teacher's subject area, years of teaching, education and the percentage of secondary and postsecondary students, then this ranking would reflect the opinion of the teachers as a group.

Analysis of variance (ANOVA) was selected to test for the differences among the levels of each variable across the nine categories.

Results

The primary purpose of this study was to develop an occupational task listing based on 85 of the PBTE module titles. In addition, tests were conducted to determine whether the teacher's subject area, years of teaching, educational background, or percentage of secondary and postsecondary students affected the relative importance of the nine categories.

The findings of this study indicated that there were no differences among the variables across eight of the nine categories. Two significant findings occurred within the category for managing a leadership club through the Vocational Industrial Clubs of America (VICA).

Table 3 presents the ANOVA data for years of teaching by VICA. The *F*-value was significant at the .05 level. In reviewing the means it appeared that VICA was considered important during the first two years of teaching, and declined significantly after the third year.

Table 3
Analysis of Variance of Years of Teaching by VICA

Source	df	SS	MS	F
Between Groups	4	400.348	100.087	2.915*
Within Groups	162	5562.286	34.335	
Total	166	5962.634		

*$p < .05$

The second finding was between the percentage of secondary and postsecondary students within the program and the importance of VICA. The data revealed that VICA was the most important to teachers with no adult students. As more adult students were present in the program, the importance of VICA decreased significantly. The importance of VICA was the lowest in programs with only postsecondary students.

With the exception of the two findings related to VICA, statistical tests indicated that subject area, teaching experience, educational background, and the student population were not related in terms of the task listing. These findings support the research conducted in the development of the PBTE modules and demonstrate the appropriatness of the modules for the population in this study.

Discussion and Implications

In examining the data it was found the importance of VICA declined significantly after the first two years of teaching. This may be due to the fact that the majority of these teachers are enrolled in teacher education classes during their first two years in the profession. During this period they typically enroll in a VICA course. It may be that once teachers leave the teacher education atmosphere that they lose their enthusiasm for VICA. Another explanation may be that after three years of teaching that instructors feel that it is difficult to maintain student interest in VICA.

It was interesting to note that all six items relating to VICA fell below the grand mean and that the statement "Participate in VICA Contest" ranked slightly higher than "Establish a VICA Club." It appeared that participating in contests was more important than forming a club. When this attitude prevails the students not only miss most of the VICA activities, but teachers easily lose interest if their students fail to win at the contests.

The second finding indicated that as the number of adults in a program increased, the importance of VICA decreased. While there is a postsecondary division of VICA, some adults may not feel comfortable being involved in what is often perceived as a youth-oriented club.

Also, instructors in totally adult programs are not required to pursue certification courses and, therefore, are not influenced by course activities.

Recommendations

As was previously indicated, the first step in the development of a performance-based system is the identification of the competencies to be attained. The task rankings developed in this study appear to reflect the opinions of both the population and sub-populations of the T&I teachers surveyed and are consistent with the findings of Cotrell, Chase and Molnar (1972). With this in mind, the following recommendations are presented:

1. That the teacher education curriculum be based on the performance based teacher education modules.
2. That strategies be developed to maintain teacher interest in VICA after their third year of teaching.
3. That strategies be identified to involve teachers with adult students in VICA.
4. That National VICA and state associations continue to focus on the development of programs and materials for adult VICA members.
5. That National VICA and state associations conduct training workshops for the T&I teachers to emphasize the importance of the entire VICA program to reduce the emphasis on the VICA contests only.
6. That teacher educators examine alternative systems for providing VICA advisor training to teachers of Trade and Industrial Education.

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*Vocational Education For Disadvantaged Students**

Jerry L. Wircenski,
University of North Texas

Lynda L. West
University of Missouri - Columbia

and

Michelle D. Sarkees
University of Georgia

Disadvantaged students are learners who have economic or academic disadvantages and who require special services and assistance in order to succeed in vocational education programs. Vocational programs provide an opportunity for disadvantaged students to develop skills and competencies which will enable them to lead productive lives, achieve success and develop a sense of self-worth and independence.

The purpose of the Carl D. Perkins Act is to better serve certain individuals who, under earlier legislative mandates, had been inadequately addressed, including the disadvantaged. Of the funds available under Title II, part A of Public Law 98-524, 22 percent has been allocated for disadvantaged individuals. The only basis for identifying students as disadvantaged should be their need for supportive services or special programs designed to meet their unique needs in order to enable them to succeed in vocational education. Furthermore, each student should be identified as an individual who has not been able to succeed in the conventional education system rather than as a member of a particular ethnic or socioeconomic group. With this in mind, some general characteristics are presented as guidance for each of the groups classified as disadvantaged according to the Carl D. Perkins Vocational Education Act. The groups of individuals included under the term "disadvantaged" are the academically disadvantaged, economically disadvantaged, limited-English proficient individuals, criminal offenders, single parents and displaced homemakers. For the purpose of this article, the term "Disadvantaged" shall be confined to academically disadvantaged, economically disadvantaged, and limited-English proficient individuals.

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Dr. Wircenski is a professor, Department of Occupational and Vocational Education, University of North Texas, Denton, Texas. Dr. Sarkees is an associate professor, Division of Vocational Education, The University of Georgia, Athens, Georgia. Dr. West is an associate professor, Department of Practical Arts and Vocational-Technical Education, The University of Missouri, Columbia, Missouri.

Vocational education provides a variety of services and support systems for disadvantaged students whom they serve. Some of the common support services are as follows:

- Assessment and evaluation
- Academic remediation
- Guidance and counseling
- Basic skills instruction
- Vocational awareness
- Personal development
- Employability skills
- Work experience
- Vocational skill training
- Job placement and follow-up

These services and the support system which surrounds them, strengthens the learning environment for disadvantaged students.

Classification of the Disadvantaged Population

Academically disadvantaged individuals are defined as those who score below the 25th percentile on a standardized achievement or aptitude test, whose secondary school grades are below 2.0 on a 4.0 scale, or fail to attain minimal academic competencies. Academically disadvantaged youth typically have a long history of academic failure and many have already dropped out of school. As a result, their aptitude and achievement test scores are usually much lower than their peer group.

Economically disadvantaged individuals are defined as those who come from a family whom the state board of each state has identified as low income on the basis of uniform methods, such as annual income at or below the official poverty level, eligibility for reduced-price school lunch, eligibility for aid to Families of Dependent Children or other public assistance programs, or receipt of Pell grant or other comparable state programs of need-based financial assistance or eligibility for participation in programs assisted under title II of the Job Training Partnership Act (P.L. 98-524).

Characteristics of the Disadvantaged Population

In an attempt to counter the problem of determining just exactly who the disadvantaged are, the U.S. General Accounting Office has a broad definition employed by the Current Population Survey (CPS). The Current Population Survey defined dropouts as individuals who are not high school graduates or currently enrolled. Employing this definition, the Current Populations Survey data revealed that there were approximately 4.3 million dropouts aged 16-24 (U.S. Bureau of Labor Statistics 1985). Data from the National Longitudinal Surveys of Labor Market Experience (1984) showed that among youth aged 18, during the period 1979-1982, about 15 percent of whites, 17 percent of blacks, and 31 percent of Hispanics failed to complete high school. The current national estimate suggests about 25 percent of the fifth graders currently in school will not make it through high school graduation. These data varied by geographic region. According to the data from the High school and Beyond Study (U.S. Department of Education, 1985), drop-out rates for white youth from public school were higher in the southern and western regions of the United States as compared to the northeast and north central regions. For blacks, the dropout rates were higher in the northeast and north central regions. When examining the data for Hispanics, there were few regional differences. Regardless of which ethnic group is examined, drop-out rates were higher in cities than in suburban and rural areas.

There is no single reason why disadvantaged learners leave school before graduation. In data reported by the U.S. Department of Education, National Center for Education Statistics (1983) youth who drop out of school do so for various reasons--school was not for them, 33.1

percent; poor grades, 33 percent; offered job or chose to work, 19.5 percent; marriage, 17.8 percent; didn't get along with teachers, 15.5 percent; and to support family, 11.1 percent; pregnancy, 10.9 percent.

Borus and Carpenter (1984) found that youth who dropped out of school had a correlation with the following traits--being 2 or more years behind grade level, being pregnant, coming from households where the mother or father was not in the home when the youth was age 14, coming from a household where the father dropped out of school, having relatively little knowledge of the labor market. These findings correspond to those of the Youth Incentive Entitlement Pilot Projects (Cook and Reesman, 1984) where researchers found that for low income youth the characteristic most strongly associated with the greatest probability of not completing high school by age 20 was being one year or more behind expected grade level at ages 16.5 to 17.5 years. In analyzing data from the Youth in Transition Project (Bachman et al., 1971), it was shown that in addition to factors such as low classroom grades, grade failure and negative school attitudes, delinquent behavior in the middle school years was also a powerful indicator of potential for leaving school before graduation.

An examination on the employment data on high school dropouts in the labor market reveals succintly the consequences facing disadvantaged learners who leave school before graduation. For the high school dropout, the unemployment rates are far higher than for those who graduate. The employment situation for black high school dropouts is worse than for their white counterparts. According to the United State General Accounting Office (1986) their fate is worse today than 20 years ago. The unemployment rate for black youth has risen since the 1950s and continues to do so. For example, in 1972 the unemployment rate for black teenagers was 35 percent. In April, 1986, it had risen to 43 percent. According to the Current Population Survey (U.S. Bureau of Labor Statistics, 1985), approximately 25 percent of high school dropouts ages 16-24 were unemployed compared with about 10 percent of high school graduates. In addition, a large proportion of dropouts do not even seek work. In this same study it was found that only 68 percent of the dropouts were in the labor force in contrast to 87 percent of high school graduates. There were also sharp differences in the extent of the labor force participation and unemployment for women dropouts versus graduates. Data from the National Longitudinal Surveys of Labor Market Experience (Morgan, 1984) showed that among youth aged 18-22 in 1979 who were not enrolled in school, dropouts had an unemployment rate that was almost three times the rate of high school graduates.

For those dropouts who are successful in securing employment, their earnings are lower and they are more likely to be employed in semiskilled manual labor types of jobs. According to the Current Population Survey data (U.S. Bureau of Labor Statistics, 1985), the mean income for men and women 25 years or older who had not completed high school was about one third lower than those who had graduated. Data from the National Longitudinal Surveys of Labor Market Experience (1984) showed that obtaining a high school diploma by 1980 (or before) was worth an additional $1500 in 1981 earnings for young women and $1600 for young men after controlling for a variety of differences between dropouts and graduates.

The difficulties of daily living for disadvantaged youth, whether they reside in the inner city or rural America, are often overwhelming. Disadvantaged youth commonly come from poor families, from single parent families, from families where at least one parent is unemployed or menially employed. Disadvantaged youth come from families where they receive less parental attention and are often left on their own at a very early age. Many reside in environments characterized by high crime, vandalism, drugs, and juvenile delinquency. Dropping out of school before completion can have adverse consequences for society in general in such areas as additional welfare costs, crime, and poor health. It has been estimated that the current dropouts annually cost the United State $3 billion in welfare payments alone (*Dropouts: A Summary of National, Sate, and Local Information*, Undated). In the state of Texas, for example, the current dropout problem is estimated to be costing the state $17.12 billion in forgone income and lost tax revenues, increased costs of welfare, crime, incarceration, unemployment insurance, and placement and adult training and educa-

tion. Conversely, every dollar invested in educating potential dropouts is estimated to result in a return of $9. Weber and Mertens (1987) estimate that each high school dropout costs society a minimum of $26,000 over his or her worklife. Howe (1985) points out that it costs nearly $500 to provide a year of compensatory education to a student before he or she gets into academic trouble, whereas it costs $3,000 when one such student must repeat one grade.

The links between school dropouts and crime, i.e., school vandalism and drug abuse, are very strong. Dropouts are reportedly six to ten times more likely to be involved in criminal activity. According to one state's dropout report, 85 percent of all prison inmates in the United States were high school dropouts. (*Dropouts: A Summary of National, State, and Local Information*, Undated). The FBI reports that the rate of violent crime among juveniles has doubled in the last two decades (Sherraden, 1986). Young people under age 21 still account for more than half of all arrests for serious crimes. School vandalism alone was estimated by a Senate Subcommittee to cost $500 million a year and it has been suggested by a major national study that American youth use more drugs than the young people of any other industrialized nation (as cited in Sherraden, 1986). A report of the Select Committee on Narcotics Abuse and Control (U.S. Congress, 1986) found that a relationship exists between drug abuse and dropping out.

Programming Recommendations

There are many challenges that face educators in providing quality and individualized instruction for disadvantaged youth. Long-range planning and a positive learning environment are essential elements to the philosophical approach for disadvantaged students. The following recommendations are intended for educators at the local and state levels, teacher educators who are preparing future and current teachers through preservice and inservice training programs and for leaders and policy makers who set the national agenda for the disadvantaged:

- Consider the entire problem of the "disadvantaged" in program planning and program implementation.

  Usually when the term "disadvantaged" is used, many people think of academic disadvantages. However, there are other significant factors that can affect the student's educational program, including economic conditions, and environmental factors. The total picture of each disadvantaged student must be established in order to adequately plan for an appropriate educational program.
- Establish and/or expand parent education programs.

  Parents can be a primary source of important information concerning student interests, abilities, and needs. They can also help to plan and reinforce the educational and career goals that are being implemented in the schools.
- Establish a better tracking mechanism for dropouts, including a comprehensive outreach component so they can feel free to return and complete school.

  In order to plan effective programs for dropout prevention or appropriate alternative components for the educational system, we must determine the reasons that students are leaving school. An effective tracking system could help to accomplish this objective as well as inform dropouts of the options available to them to continue their education.
- Expand programs and services to an earlier age.

  Providing early entry into exploratory middle school and vocational programs can prevent potential dropouts from leaving school. This should occur as early as the middle school grades.
- Incorporate and emphasize generalizable skills into existing academic and vocational curricula.

  A functional, relevant, and conducive curriculum has greater significance to the reality of disadvantaged students. A generalizable skills approach can help to develop basic skills within the context of vocational programs and employment settings.

- Improve interagency coordination.

  A cooperative team approach in schools among vocational instructors, vocational special needs personnel, basic skills and remedial instructors, counselors, and administrators should be implemented to plan and implement programs and services for disadvantaged students. In addition, interagency planning with community organizations, local and state agencies, adult services providers, post-secondary representatives, and employers is essential in providing a full array of support services for this population.
- Establish alternative delivery strategies for students who drop out from day school.

  Alternative programming options such as flexible hours, weekend programs, community-based programs, evening classes, and work experience for credit programs may better meet the needs of disadvantaged individuals. Some students may need to work at a job around school hours in order to supplement the family income. The more flexible the education program, the greater the chance that more at-risk individuals will continue their education.
- Expand instructional strategies and models that work well with disadvantaged populations.

  Models and instructional strategies (e.g., peer tutoring, cooperative learning) that are successful in meeting the needs of disadvantaged students should be shared with administrators and educational personnel so that appropriate models can be established and implemented at the local school level.
- Plan, organize and conduct continuous professional development opportunities for educators working with disadvantaged populations.

  Educational personnel who work with disadvantaged students should be provided with inservice training regarding effective practices such as teaching strategies, effective discipline practices, cooperative learning versus competitive learning environments, group counseling strategies, and motivational strategies.
- Coordinate and implement a comprehensive career development and employability skills process for disadvantaged students.

  Most disadvantaged students lack work experience and worker role models. A career development process beginning in the primary grades and incorporating the stages of career awareness, career orientation, career exploration, and career preparation should be established. Prevocational, employability, and functional skills should be infused into this process at all stages.
- Utilize successful individuals who come from similar disadvantaged populations to "tell their story" as guest speakers, counselors, and partners in industry.

  Role models can help disadvantaged students to reflect on their own interests and needs and formulate positive realistic long and short term career goals.
- Establish a clearinghouse concerning dropout prevention.

  Educators should have access to dropout prevention information such as key contact people in associations, school districts, and organizations; conferences and programs relative to the issue; model programs established to retain high-risk students in school; and publications. This continuous, up-to-date source of ideas should help state and local educators improve current practices and programs aimed at meeting the needs of disadvantaged students.
- Expand services available to disadvantaged students.

  Local districts must examine services that are currently available as well as additional services that could be added to the educational process to encourage disadvantaged students to stay in school and succeed (e.g., family intervention, counseling services, health clinics, day care facilities for single parents, academic and employability skills remediation).

These recommendations have been set forth as guidelines and suggestions for educators working with disadvantaged students in the vocational education programs or who will work

with them in the future. The future holds a new beginning for students who would otherwise suffer from underemployment or unemployment.

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Finding the Elusive ESL Student: Mexican Migrant Workers in a Midwest Suburb

Robert E. Nolan
Oklahoma State University

In his classic treatise on poverty in America, Harrington (1971) described the poor as socially invisible. Mainstream America was described as knowing about the existence of the poor, but unaware of the quality of that existence. Harrington saw the poor without political voice--a people living on the fringe of the "Affluent Society" without participation in it or adhering to its values (21-22).

What Harrington (1971) wrote about the poor of the 1960's could equally be said about one population of Mexican migrant workers living in a suburban midwest community. This is not to make a statement about Mexican groups in other parts of the United States. Certainly Mexican Americans enjoy high visibility in the Southwest and in many large cities throughout the nation. However, in the rural/suburban midwest, the status of Mexican migrants would at first appear to resemble the social and economic "other world" described by Harrington. Community leaders, social workers and educators, including those who conduct adult basic education programs, need to be able to identify and locate this population.

This study attempts to (1) locate this "other America" of Mexican migrants as it exists in a midwestern small town/suburban community; (2) describe its general contours; and (3) show why it is a group that is not easily recruited to eductional programs. The study is the fruit of observation and three months of formal research which included indepth interviews with 32 individuals.

A considerable body of literature, the majority of which appears in various issues of the ***International Migrant Review***, describes various migrant patterns of documented and undocumented Mexican aliens (Bean, King & Passel, 1983; Jones, 1982; Jones & Murray, 1986; Passel & Woodrow, 1984).

The period covered by this research--1977 to 1979--is well documented as not only the period of intense immigration, but one in which 65 percent of the aliens entering the United States from Mexico were illegal either because they were undocumented from the time of entry or they overstayed temporary visas (Passel & Woodrow, 1984). If immigration flows were viewed according to periods of 1965-1969, 1970-1975 and 1976-1980, the most intense period of immigration occurred during the 1975-1980 period (Passel & Woodrow, pp. 652-653).

According to the best estimates (Passel & Woodrow, 1984, pp. 652-653), 941,000 aliens entered the country during the period of 1975-1980. Of these some 55 percent are estimated to have entered the United States from Mexico. During the same period 61,000 undocumented Mexican aliens came to Illinois, the state in which our research was conducted, while 8,000 came to Oklahoma along with some 15,000 green card-carrying compatriots (Passel & Woodrow). Hence this study, while carried out some eight years ago, concerns issues which still dominate the literature being published on immigration and migration today, and is perhaps being felt more keenly now due to recent legislation.

Dr. Nolan is an Assistant Professor of Occupational and Adult Education, Oklahoma State University, Stillwater, Oklahoma

Useful in understanding this study are a set of distinctions devised by Jones & Murray (1986) who see three separate models for viewing Mexican migrants. Their first model is the "hierarchical model" (p. 974) which describes Mexican migrants who migrate from rural interior Mexico to rural areas in Texas, New Mexico, Arizona where they later learn about better opportunities that await them in non-agricultural employment elsewhere. In this fashion they move from job to job, working their way up from low-paying to better paying jobs in a hierarchical order, usually ending up in urban areas filling unskilled jobs in industry.

The second model described by Jones & Murray (1986, p. 974) is the "shuttle" migrant who returns to the same job in the U.S. year after year. This type of migrant worker often comes from a borderland town in Mexico, even though such an individual might travel long distances in the United States to reach an identified employment opportunity. As a matter of fact, this was the situation of many migrant farm workers in areas surrounding the suburban site which is under study. However, because this study was conducted in a suburb, the study purposely excluded surrounding farms as interview sites.

The third model described by Jones and Murray (1986) more closely fits most of the subjects interviewed in this study, the so-called "sojourner" (p. 976) who spend time in Mexico between work trips to the United States. These migrants work in non-farm jobs, earn an average of $200 a week in 1984 dollars (seven to 13 times their average wage in Mexico), and are not users of the local social services because most are males whose families reside in Mexico. This group sends an average of 45 percent of its income to family members in Mexico and is the group responsible for remittances recently discussed by President Reagan and the Mexican Government.

The Setting

The county in which the suburb under study is located lies within the SMSA (Standard Metropolitan Statistical Area) of Chicago. The suburb itself is located on a heavily traveled commuter line about 50 miles northwest of Chicago. The town is growing--from 10,266 in 1970 to 12,313 in 1984 (U.S. Bureau of the Census, 1986, p. 23). It is changing its identity from that of a small farm town to that of a bedroom community belonging to Chicago's outer suburban ring.

City planners encourage population growth by advertising the community as the "All-American City with outstanding industrial opportunity." Currently town planners are trying to attract upper middle income residents by introducing zoning codes that require a better than average home with large lots. Day to day operation of the town is overseen by a city manager employed by the city council. The city manager, a university trained professional in public administration, feels that planned growth is an important aspect of city management. Older housing near the center of town reflects the town's history as a blue collar farming community until recent times.

In an effort to control future growth and to increase the tax base of the city, industrial development remains one of the city planners' chief objectives. For example, the city currently uses less than half of its water pumping capacity. A recently contructed water treatment plan left the town with considerable indebtedness when a food products company--the city's second largest water user and largest employer--moved out of the state. The city council hired a consultant firm to conduct an industrial development survey which described the local work force as people who "...take pride in their work, appreciate their jobs, and give a day's work for a day's wage." In 1979 the suburb's median family income was $22,671 (U.S. Bureau of the Census, 1982, pp. 15-466).

Methodology

An interview guide was designed based on a model developed by Lofland (1971, p. 75). In addition to introductory statements and an explanation of the study, the guide attempted to

gather information on demographic factors (age, education, address, years lived in the area under study, and the town or village in Mexico considered "Home" by the subject). Open-ended questions were then asked to gather information on motives for coming to the area, plans for the future, attitudes toward the town and frequency of visits to Mexico or Texas.

A second interview guide was prepared for interviewing five informants: the mayor of the town, the city manager, two teachers of English as a second language at the local high school and a Mexican American of influence in the community. The informant interview guide sought information on the socio-economic aspects of the towns people as well as information about the population under study. Questions from the informant interview guide were also designed to ascertain the informants' frequency of contacts with Mexican migrants, their views about employers of Mexican migrants in the area, and perceived motives of the population under study for coming into the area. Finally, all informants were asked to estimte the size of the population under study.

All subject interviews but two were conducted in Spanish by the invesitgator. Subject interviews followed the interview guide strictly. Notes were recorded after the interviews. In the case of the informant interviews, the guides could not always be adhered to. For example, one informant interview lasted five hours. The informant had come to the U.S. via the federal Bracero Program in 1943 and the wealth of information he was able to provide about Mexican migrants in the midwest soon exceeded the limits of the interview guide.

Sampling turned out to be a vexing problem due to the low visibility and considerable dispersion of the population. Classical methods such as random selection of names from the phone directory or block sampling could not be used. Of the 27 subjects interviewed, only four could be found in the phone book. Because the population was scattered throughout the town, block screening was inappropriate. In addition to general inaccessibility of the population, the then current influx of illegal aliens in the Chicago metropolitan area made it impossible to interview subjects in their places of residence for fear of appearing as an investigator. It was felt that any attempt to interview subjects in their homes would have created tensions detrimental to the interview. Although some addresses in town were considered likely to house Spanish speaking people, addresses of specific persons could rarely be obtained. Thus, a mixture of sampling methods was tried. The four subjects whose addresses were in the phone directory were contacted. All others were contacted after being referred by other subjects or were contacted at a Mexican grocery store specializing in ethnic food, or at a laundromat. Two of the 27 interviews were conducted on the telephone.

Initial interviews were with informants. Through them was learned the location of a school where classes in English as a second language were held. An occasional Mexican student was interviewed before or after classes. Informants also advised visits to a local supermarket on Friday nights. Next to the supermarket was a laundromat also frequented by the population under study. Friday evenings were spent standing outside the supermarket or sitting in the laundromat. Seven subjects were interviewed at these locations.

After gaining confidence of a few subjects in this way, the researcher was introduced to their friends or relatives or referred names of subjects that could be contacted at a later date. Only because of time limitations did the final number of subject interviews end at 27.

Findings

Considerable confusion existed about the actual number of Mexican migrants residing in the area. The 1980 census indicated 333 people of Mexican descent (U.S. Bureau of the Census, 1982). The mayor could not say how many people of Mexican heritage were living in the midwestern suburb in 1977, but felt that the number would be twice that of the official census. Her opinion coincided with those of two very perceptive Mexican Americans who lived in the area.

An individual of some influence among the Mexican migrant population noted, "there are at least twice as many Mexicans in the area today as there were ten years ago. The reason you do not notice them is that they know how to keep out of sight." The city manager, on the other hand, viewed such claims as unfounded; he believed the Mexican population of the

suburb had increased only slightly over the past ten years. It would not seem inconceivable that a population with varying degrees of transiency, living in scattered areas throughout the town, might remain less than visible to the untrained eye.

Eighteen of the 27 subjects were either currently engaged in agriculture work or claimed to be former migrant farm workers. At the time of the interviews, however (October and November), only five of those 18 were still working in agriculture--three in greenhouses and two at a sod nursery.

Why did the subjects come to the area? All but five of the 27 subjects interviewed came to find work. Of these five, three came to accompany a family member or relative who had come to the area for employment. Although most came to the area to seek employment, they did not come to this specific town for that reason. More than half of those interviewed worked in other towns, some of them 30 miles distant.

The reason Mexican migrants came to this midwest suburb is suggested by the city manager: the availability of housing. Four years previously the suburb had experienced a need for more rental housing. Two large apartment complexes were built. Either because of management policies or because the demand for rentals had been miscalculated, these apartment complexes did not attract enough tenants to meet their capacities. The city manager pointed out that one of the rental complexes maintained an occupancy rate of only 35 percent. In turn, Mexican migrants had little trouble locating rental units in the area. This was confirmed by statements made by both subjects and informants. Six of the subjects interviewed had been living in other neighboring towns previously. Since they did not work in the suburb, their sole reason for coming there was to find housing. A single bedroom unit in one of the modern apartment complexes available to Mexican Americans rented for $200 a month, a considerable amount in 1977. At that time, Mexican migrants coped with these relatively high rents by splitting the costs among three to five wage earners. This practice had occasioned some bad reactions from the community.

It would seem that the then available jobs and housing would encourage these Mexican immigrants to settle in the area. As has been mentioned, over half of the sample were formerly migrant farm workers. One 30 year old male, holding two full-time factory jobs at the time of the interview, identified himself as a migrant worker. Before coming to the suburb he had been migrating to California and Illinois as a farm worker for more than 12 years. His wife and three children continue to live in Mexico City. A snapshot of the children showed them looking quite presentable in school uniforms associated with middle class private schools in Mexico. He related how he had planned to return to Mexico at Christmas to visit his family and to be back at work in the suburb by mid-January.

A meeting with a group of five adults, only two of whom I was able to interview, revealed additional migrant characteristics. The five were related and had been working on California produce farms before 1977. In 1977, before leaving Mexico, they had heard about drought conditions in California; consequently they decided to come to the Chicago area where they felt reasonably certain that they could work in agriculture or in industry.

The migrant background of nearly all those interviewed explains why they expressed little desire to establish themselves permanently in the suburb. Another hypothesis is that many are undocumented aliens who sooner or later will have to return to Mexico regardless of any desire to stay.

Of the 27 subjects interviewed, only three planned to establish permanent residency in the suburb. Fifteen planned to return to Mexico as soon as economic circumstances permitted. Five had "no plans one way or the other". Those having made "no plans" included a young man who admitted that his lack of documentation prevented him from leaving the country even though he longed to visit his family in Mexico.

A final incident perhaps explains why Mexican migrants find employment in this suburb. During a interview with a male subject who identified himself as a migrant worker, his boss, the owner of a small machine shop, walked into the store while we were conversing. After the introductions, his boss began telling me what he really thought about Jose.

"Jose is one of the best workers I've ever had. He works the night shift from 4:00 p.m. to midnight at XX factory. He goes home to sleep after midnight, yet he comes to work in my shop every morning at 8:30. I have another fella who works for me. He is a senior in high school. On the day after Christmas last year, when there were no classes, the youngster still came to work at 3:00, the same as if there had been classes. But Jose is always there at 8:30. Hell, I could have used the kid all day. The kid's desire to work has its limits. I think a lot of people in this country have lost the desire to work."

A Mexican American informant explained why Mexicans are hard workers. "In Mexico," he said, "if a person does not work, he dies of starvation. It's as simple as that."

Conclusions

The purpose of this study was to locate and describe the Mexican migrant residing in an affluent suburb as an aid in recruiting this population for educational programs. More needs to be learned about Mexican migration patterns in midwest metropolitan and suburban settings. Migrant patterns have been traditionally associated with agricultural employment. The U.S. Office of Economic Opportunity assumed in the late 1960's that opportunities for permanent employment would help break the migrant cycle of Mexican migrant families. The present study suggests a reexamination of that assumption. Mexican migrants in this study maintain a migrant life style despite ample opportunity for permanent employement.

Further research should be directed to other suburban and small town communities. Any attempt to randomly sample this population would almost certainly meet with failure due to its low visibility. This sutdy suggests that future field research in suburban areas would benefit from the sampling by referral method proposed by Welsh (1975) or chain sampling proposed by Jones & Murray (1986) and successfully used in this investigation.

This research further suggests that Mexican migrants residing in suburban settings resist assimiliation because, (1) their presence in the U.S. is the result of having been "pushed" out of Mexico by adverse economic pressures and (2) the proximity of their homeland invites frequent return trips to communities with which they identify. Since they unwillingly left Mexico, motivation to become "Americanized" would appear weak at best. Yet social workers and educators often assume motivation to assimilate among members of this group as a given. In Illinois the so called "Americanization Program" funded by the Illinois State Board of Education makes such an assumption. In a real sense Mexican migrants are economic exiles not dissimilar to other groups who were or continue to be political exiles. The Mexican exile mentality, in contrast with other groups, is reinforced by the proximity and easy return access to their homeland. Thus, psychological pressures to assimilate do not seem to be present in this group.

Those in the helping professions should recognize that employment opportunities and availability of housing bring Mexican migrants to a determined area. Of the 27 subjects interviewed, only two were unemployed, a ratio slightly lower than the state average at the time the research was conducted (7.4 percent vs. 7.6 percent). This would suggest to those in the helping professions that this population is not a user of the welfare system. It also argues that attempts to locate this population might begin with local industrial enterprises which typically employ large numbers of unskilled workers.

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